

Listing of Claims

1 (Original). A circuit for processing an audio signal including an input stage for receiving the audio signal and an output for presenting a processed audio signal, comprising:

a signal source providing the audio signal having positive and negative wave portions;
first and second input stages having substantially identical nonlinear performance curves, the first input stage receiving the audio signal, and the second input stage receiving an inverse of the audio signal, the first and second input stages further including control points that are selected such that of the positive and negative wave portions, one of the portions is processed substantially nonlinearly and the other of the portions is processed substantially linearly; and

a difference amplifier receiving the processed portions from the first and second input stages and producing the processed audio signal.

2 (Original). The circuit of claim 1, wherein the first and second input stages comprise passive circuits for generating the nonlinear performance curves.

3 (Original). The circuit of claim 2, wherein the passive circuits comprise diodes.

4 (Original). The circuit of claim 1, wherein the first and second input stages comprise amplifiers having nonlinear performance curves.

5 (Original). The circuit of claim 1, wherein an inverter circuit provides the inverse input signal for the second input stage.

6 (Original). The circuit of claim 1, wherein the difference amplifier is operated in a linear range.

7 (Original). The circuit of claim 1, wherein said circuit has a high input impedance for uncoupling it from the signal source.

8 (Original). The circuit of claim 1, wherein said circuit is cascaded to achieve a greater dynamic signal compression.

9 (Original). The circuit of claim 1, in which the signal source includes an electrical musical instrument.

10 (Original). The circuit of claim 1, in which the processed audio signal has a headroom that is at least about 6 dB greater than a headroom of the audio signal.

11 (New). A method comprising:

- receiving an input audio signal having positive and negative wave portions;
- inverting the audio signal, thereby generating an inverted audio signal;
- processing one of the audio signal and the inverted audio signal substantially linearly;
- processing the other of the audio signal and the inverted audio signal substantially nonlinearly; and
- forming a difference between the processed audio signal and the processed inverted audio signal, thereby generating a processed audio signal.

12 (New). A method according to claim 11, wherein the processing step are performed in accordance with different respective control points of the same performance curve.

13 (New). A method according to claim 11, wherein the processing step are performed passively.

14 (New). A method according to claim 11, wherein the audio signal is generated by an electrical musical instrument.

15 (New). A method according to claim 11, further comprising:

- repeating the receiving, the inverting, both processing, and the forming steps, wherein the processed audio signal is used as the input audio signal in the repetition of the steps.

16 (New). A system comprising:

- a means for receiving an input audio signal having positive and negative wave portions;
- a means for inverting the audio signal, thereby generating an inverted audio signal;

a means for processing one of the audio signal and the inverted audio signal substantially linearly;

a means processing the other of the audio signal and the inverted audio signal substantially nonlinearly; and

a means for forming a difference between the processed audio signal and the processed inverted audio signal, thereby generating a processed audio signal.